

Health Alert

March 28, 2003

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How to contact us:

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Health Alert #44

**This Health Alert replaces HA#s 4, 6, 7, 9, 10, 16,
18, 19, 20, 21, 22, 23, 25, and 28.**

**FROM: RICHARD C. DUNN
DIRECTOR**

**SUBJECT: How To Handle Anthrax Threats, Including Letters
and Packages Containing Unknown Powdery
Substances**

This information was developed by the Missouri Department of Health and Senior Services (DHSS), the Missouri Department of Public Safety (DPS), the State Emergency Management Agency (SEMA) and the Federal Bureau of Investigation (FBI).

Background

Anthrax infection occurs following the entry of anthrax spores into the body, most commonly through getting the spores onto non-intact areas of skin (resulting in cutaneous anthrax) or through inhaling tiny spore-bearing particles into the lungs (resulting in inhalational anthrax). If a person is known or suspected of inhaling anthrax spores, antibiotics such as ciprofloxacin or doxycycline would be offered to reduce the risk that he/she will develop inhalational anthrax.

In September 2001, anthrax spores were sent in at least five letters to Florida, New York City, and Washington, DC. Twenty-two confirmed or suspect cases of anthrax infection resulted. Eleven of these were inhalational anthrax cases, of whom 5 died; 11 were cutaneous anthrax cases. Although no subsequent attacks have taken place, the concern remains that anthrax could once again be used as a terrorist weapon.

During the fall of 2001, many facilities in Missouri received letters or packages that were either accompanied by an anthrax threat, or contained an unknown powdery substance which was feared to contain anthrax spores. Since this time, the number of such incidents has markedly decreased, but still continues to occur on occasion. In addition, should another genuine anthrax attack occur anywhere in the world, the number of incidents involving anthrax threats or letters/packages containing unknown powders would very likely increase once again. The purpose of these guidelines is to recommend procedures for handling such incidents.

DO NOT PANIC – KEEP THE ACTUAL RISK OF THE SITUATION IN PERSPECTIVE

1. It is important to remember that in almost all instances in which a letter or package has been found to contain a suspicious powder, no anthrax (or any other harmful substance) has been found. At the same time, it is wise to handle each situation of this type in a careful, reasonable manner, as described below.
2. Incidents involving an anthrax threat and/or the discovery of a letter/package containing an unknown powder will be carefully investigated by law enforcement personnel and, if necessary, by public health officials. One of the first steps to take in such a situation is to contact the local law enforcement agency.
3. If, in the unlikely event that anthrax spores were present, and it was believed that specific persons might have inhaled these spores, these individuals would be offered antibiotic pills which they could then take for a period of time and as a result significantly decrease their chances of becoming ill. It is noteworthy that following the 2001 anthrax attack, over 10,000 persons who might have been exposed to the spores were placed on preventive antibiotic treatment, and no cases of anthrax occurred among these individuals.
4. It is also important to remember that persons with inhalational anthrax (the most dangerous form of the disease) do not transmit the infection to other persons. Person-to-person transmission of cutaneous anthrax has been reported but is very rare.

Suspicious Letter or Package

What kind of mail should be considered suspicious?

Some characteristics of suspicious packages and envelopes include the following:

- Inappropriate or unusual labeling
 - Excessive postage
 - Handwritten or poorly typed addresses
 - Misspellings of common words
 - Strange return address or no return address
 - Incorrect titles or title without a name
 - Not addressed to a specific person
 - Marked with restrictions, such as “Personal,” “Confidential,” or “Do not x-ray”
 - Marked with any threatening language
 - Postmarked from a city or state that does not match the return address
- Appearance
 - Powdery substance felt through or appearing on the package or envelope
 - Oily stains, discolorations, or odor
 - Lopsided or uneven envelope
 - Excessive packaging material such as masking tape, string, etc.
- Other suspicious signs
 - Excessive weight
 - Ticking sound
 - Protruding wires or aluminum foil

If a package or envelope appears suspicious, **DO NOT OPEN IT.**

What should people do if they get a letter or package containing an unknown powdery substance?

See the flow chart beginning on the next page.

Actions to Be Taken Following Identification of a Letter, Package, or Other Item Which Could Potentially Contain or Be Contaminated With a Hazardous Substance

Initial Actions if at Home:

- Do not shake or empty the contents of any suspicious package or envelope.
- Do not carry the package or envelope, show it to others, or allow others to examine it.
- Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
- Alert others in the area about the suspicious package or envelope. Leave the area, close any doors, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
- Wash hands with soap and water to prevent spreading potentially infectious material to face or skin. Seek additional instructions for exposed or potentially exposed persons.
- Contact the local law enforcement agency.
- Create a list of persons who were in the room or area when the suspicious letter or package was recognized and a list of persons who also may have handled the package or letter. Give these lists to both the local public health authorities and law enforcement officials.

Initial Actions if at Work:

- Do not shake or empty the contents of any suspicious package or envelope.
- Do not carry the package or envelope, show it to others, or allow others to examine it.
- Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
- Alert others in the area about the suspicious package or envelope. Leave the area, close any doors, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
- Wash hands with soap and water to prevent spreading potentially infectious material to face or skin. Seek additional instructions for exposed or potentially exposed persons.
- Notify a supervisor, a security officer, or a local law enforcement official. (Ensure local law enforcement officials are contacted.)
- If possible, create a list of persons who were in the room or area when the suspicious letter or package was recognized and a list of persons who also may have handled the package or letter. Give these lists to both the local public health authorities and law enforcement officials.

Local Law Enforcement Agency

- Begin investigation and determine nature of the threat.
- The FBI must be notified before the package/letter is delivered to the public health lab.
- Determine whether the item might contain or be contaminated with a hazardous material.

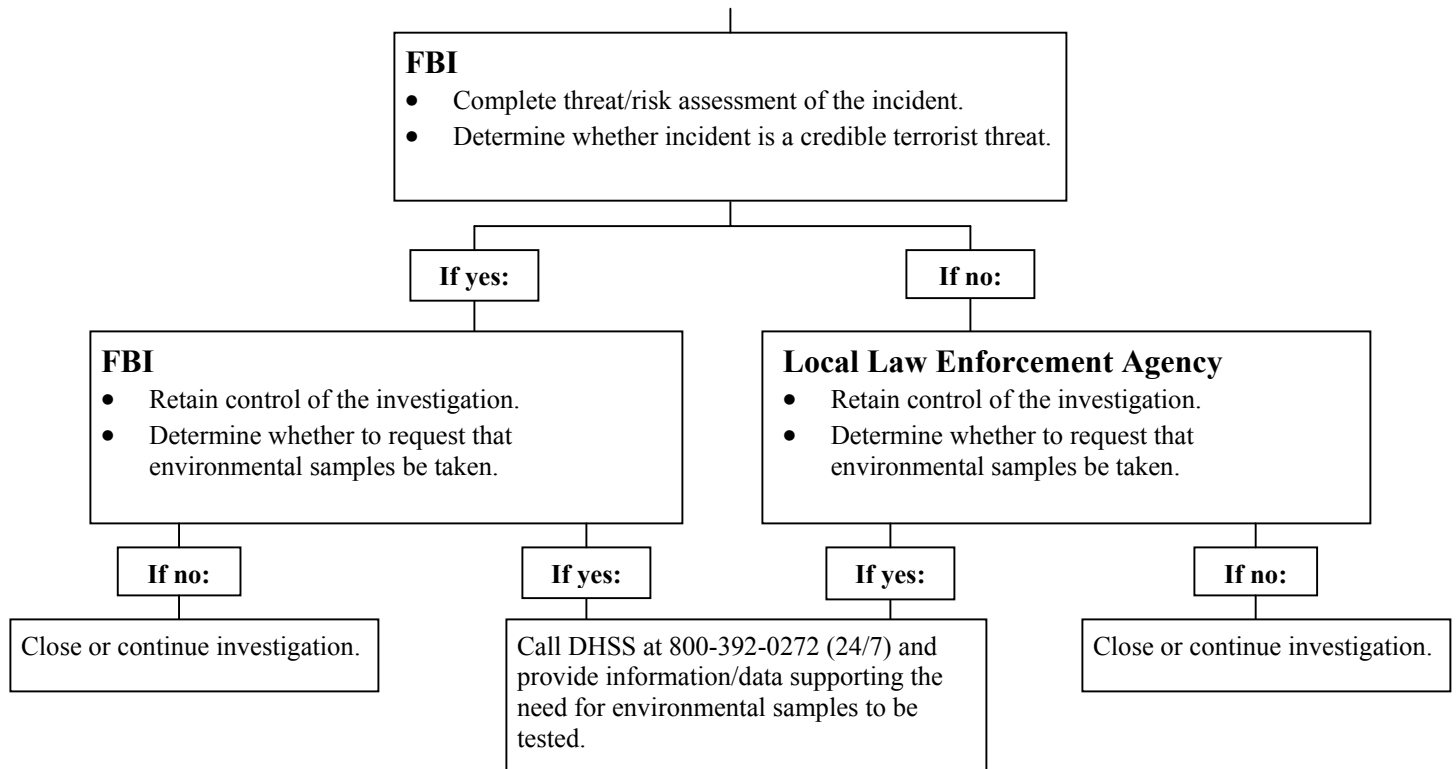
If yes:

- Secure the area.
- Notify the local HAZMAT Team – see reference list at the end of this document for Team in your area.
- Notify the regional office of the FBI and ask for the regional Weapons of Mass Destruction (WMD) coordinator or designee. Phone numbers are:
 - Eastern MO – St. Louis Regional Office – (314) 231-4324
 - Western MO – Kansas City Regional Office – (816) 512-8200 (Joplin)
 - Central MO – Jefferson City Area Office – (573) 636-8814 (St. Joseph and Springfield)
- Notify the local public health agency (see local number) or the Missouri Department of Health and Senior Services at (800) 392-0272 (24/7).
- Start a list of names and telephone numbers for all persons who may have handled the letter or package.
- Notify persons who have handled the item to place all contaminated clothing worn when in contact with the item into plastic bags to be made available to local law enforcement if needed. Instruct these persons to shower as soon as possible.

If no:

Close or continue investigation.

See next page.



DHSS

- Before accepting a sample, the Missouri State Public Health Laboratory (MSPHL), or other authority within DHSS, will verify the FBI's decision and determine that there is a public health interest or need to conduct testing.
- If that determination is made, samples may be submitted on a case-by-case basis.
- Any sample taken for MSPHL to examine must be treated as evidence and the following conditions must be met, whether submitted by the FBI or any other Missouri law enforcement agency:
 - A. The **unopened** sample must be examined by an FBI certified bomb or explosives technician and rendered safe, if necessary. All samples must be "prescreened" by a certified HAZMAT Team for any chemical/organic or radiological contaminants with written documentation provided. Items must be packaged in a manner that can be physically handled in the MSPHL. If there are any questions regarding packaging, call MSPHL before bringing the sample in (573/751-3334 or 751-0633, or 800-392-0272 [24/7]).
 - B. The law enforcement agency must transport the prescreened sample to MSPHL, and there must be an officer present to maintain appropriate chain-of-custody during the sampling process. The officer must remain on the premises of the MSPHL and assume physical custody of the evidence after laboratory sampling has been completed.
 - C. In addition to reporting to the law enforcement agency, results of analyses performed under these circumstances will be shared with the FBI and appropriate DHSS staff.

DHSS will additionally:

- A. Determine the need for disease investigation.
- B. Conduct investigation and follow-up activities as indicated according to guidelines contained in the Division of Environmental Health and Communicable Disease Prevention's *Communicable Disease Investigation Reference Manual* (<http://www.dhss.state.mo.us/Publications/CDManual/CDsec2.pdf>).
- C. Provide guidance regarding testing and prophylaxis.

Environmental Specimen Collection and Transport

(Includes any sample NOT from clinical sources)

Missouri Dept of Health and Senior Services (800) 392-0272 (24 hours)

State Public Health Laboratory (573) 751-3334 or 751-0633

For further information, see the State Public Health Laboratory Web Site:

www.dhss.state.mo.us/Lab/index.htm

Remember that these samples may be **highly infective!** Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with a biological agent.

NOTE: Environmental samples can be no larger than 12 inches by 36 inches (including packaging). For larger samples, consult the Missouri State Public Health Laboratory (MSPHL) before submitting.

Samples may include paper, water, dry swab samples from air vents or other surfaces, powders, soil or other environmental samples. Only liquid samples need to be kept cold. All other samples can be transported at room temperature.

In individual situations environmental specimens received in the MSPHL must be accompanied by paper documentation which includes the following:

1. Agency name and telephone number and a contact person for the submitting law enforcement organization along with chain of custody papers.
2. Paper documentation that the sample has been "prescreened" by a FBI-certified bomb or explosives technician and a certified HAZMAT team.

The sample being submitted should only be the suspect material. Additional items from the area that are suspected of being exposed should be bagged up and held until testing is complete. For example, if a suspicious package/letter is received in a post office, only the suspicious package/letter should be brought to the MSPHL for testing. All accompanying pieces of mail and the mail bag or letter tray should be bagged in plastic until testing of the suspicious items is completed. Arrangements for where and how that material will be held are the responsibility of the investigating officials.

The specimen must be transported in a container that MSPHL personnel are able to open within a safety cabinet. This would include plastic bags or other devices that can be easily opened. This does not include sealed plastic buckets, etc.

The MSPHL is unable to accommodate used HAZMAT gear or other collection gear. If the HAZMAT team has collected the specimen they should package their gear in a separate container from the specimen. Disposal of HAZMAT gear is the responsibility of the HAZMAT team.

Reporting:

All reporting times are the minimum time. Any individual specimen could take longer.

For environmental specimens, negatives could be reported in 24 hours if there is no suspicious growth. However, any suspicious growth would need to be investigated and could delay the reporting of negative results.

A culture specimen could be reported "presumptive positive" in 24-48 hours with complete identification and positive confirmation at 72 hours.

**General Guidance for Managing Persons Who Have
Had Exposure to an Unknown Powdery Substance**

1. Persons exposed to an unknown powdery substance should wash their hands with soap and water to prevent spreading potentially infectious material to face or skin.
 - a) If the initial evaluation of the incident finds evidence of significant risk of exposure to anthrax, exposed persons should, as soon as practical, remove contaminated clothing and store in labeled plastic bags (handling the clothing as little as possible to avoid agitation), and shower thoroughly with soap and water.
 - b) If the initial evaluation of the incident does not find evidence of significant risk of exposure to anthrax, then the individual may, when they go home, shower with soap and water, and wash their clothing in the normal manner using laundry detergent.
2. Asymptomatic persons exposed to an unknown powdery substance should not be started on prophylactic medications unless there is specific evidence that the substance contains anthrax spores. If law enforcement personnel evaluate the incident and believe it to represent a credible threat, the substance will be tested and, if positive, appropriate prophylaxis can quickly be instituted. Only if there is specific evidence that anthrax spores may be present would prophylaxis prior to receiving positive laboratory results be considered.
3. If evaluation of the incident by law enforcement personnel indicates the absence of any credible risk, and no environmental testing is done, prophylactic antibiotics would not be indicated.
4. If an exposed person begins to demonstrate signs/symptoms consistent with those seen in early anthrax (e.g., fever or evidence of systemic disease), and no environmental laboratory results are available, then a decision must be made as to whether to begin treatment for anthrax. This decision must take into account the signs/symptoms, their onset in relation to the time of exposure, and the probability (as best can be determined) that the substance might contain anthrax spores. Clinicians caring for such patients should consult with infectious disease specialists, and with public health officials. If it is concluded that the initiation of treatment is indicated, then the recommended treatment regimen for anthrax disease (which differs from the prophylaxis regimen) should be used, and treatment should begin immediately (a delay of antibiotic treatment for patients with anthrax infection may substantially lessen the chances for survival). If, as a result of laboratory testing, it is subsequently found that the individual was not exposed to, and does not have, anthrax, the treatment regimen can be discontinued or modified as necessary.
5. If the substance is found to contain anthrax spores, all individuals potentially exposed to aerosolized spores should be offered prophylactic antibiotics as quickly as possible. Public health officials will be involved in investigating the extent of the exposure, and will provide recommendations as to which specific persons should be offered prophylaxis. All persons receiving prophylaxis should be provided education on anthrax disease and its signs/symptoms. They should be told to contact a medical provider immediately if they develop signs/symptoms consistent with early anthrax. Persons with exposure to anthrax spores who develop such signs/symptoms should immediately be started on an anthrax treatment regimen.
6. Recommendations for anthrax prophylaxis and treatment regimens are available in Health Alert #27 (http://www.dhss.state.mo.us/BT_Response/HealthAlert27.pdf). Additional recommendations may be made once drug sensitivities have been determined.

7. No screening test is available for the detection of anthrax infection in an asymptomatic person. Nasal swab cultures should not be used to diagnose cases of anthrax or to evaluate whether a person has been exposed. Nasal swab cultures may, in some instances, be utilized by public health researchers conducting an investigation of an anthrax attack.

Summary of the Clinical Features of Anthrax

The symptoms and incubation period of human anthrax are determined by the route of transmission of the organism. There are three clinical forms of anthrax: inhalational, cutaneous, and gastrointestinal. The inhalational and cutaneous forms would most likely be seen following a successful terrorist attack, and are described in the following sections taken from the CDC publication entitled *Epidemiology and Prevention of Vaccine-Preventable Diseases (The Pink Book)* (<http://www.cdc.gov/nip/publications/pink/anthrax.pdf>).

Inhalational Anthrax

Originally known as woolsorter's disease, inhalational anthrax results from inhalation of *Bacillus anthracis* spores. This form of anthrax is generally expected to be the most common following an intentional release of *B. anthracis*. The incubation period for inhalational anthrax for humans appears to be 1-7 days, but may be as long as 43 days. [Note that some animal data has suggested that the upper limit of the incubation period might be longer, and this possibility has been considered in the development of the current anthrax prophylaxis recommendations.] The median incubation period for the first 10 bioterrorism-related inhalational anthrax cases in 2001 was 4 days, with a range of 4-6 days. It is noted that the incubation period for inhalational anthrax may be inversely related to the dose of *B. anthracis*. Data from studies of laboratory animals suggest that *B. anthracis* spores continue to vegetate in the host for several weeks after inhalation, and antibiotics can prolong the incubation period for developing disease.

Early diagnosis of inhalational anthrax is difficult and requires a high index of suspicion. Initial symptoms can include a nonproductive cough, myalgia, fatigue, and fever. Profound, often drenching sweat was a prominent feature of the first 10 bioterrorism-related cases in 2001. A brief period of improvement has been reported following the prodromal symptoms, but was not seen in the 2001 cases. Rapid deterioration then occurs, with high fever, dyspnea, cyanosis, and shock. Chest x-ray often shows pleural effusion and mediastinal widening due to lymphadenopathy. Meningitis, often hemorrhagic, occurs in up to half of patients with inhalational anthrax. Prior to the bioterrorist attacks in 2001, the case-fatality estimates without antibiotics were 85-97%. With antibiotics, the case-fatality rate was estimated to be 75%. For inhalational anthrax cases in 2001, the case-fatality rate with intensive therapy was 45% (5 of 11 cases). Death sometimes occurs within hours of onset.

Initial symptoms of an influenza-like illness (ILI) could be similar to early symptoms of inhalational anthrax. ILI is a nonspecific respiratory illness characterized by fatigue, fever, cough, and other symptoms. Most cases of ILI are not caused by influenza, but by other viruses, such as rhinovirus and adenovirus. Nasal congestion and rhinorrhea (runny nose) are common with ILI, but uncommon with inhalational anthrax. Shortness of breath is common with inhalational anthrax but uncommon with ILI. Most persons with inhalational anthrax have abnormalities on chest x-ray, whereas most persons with ILI do not have abnormal chest x-rays (although primary influenza pneumonia or secondary bacterial pneumonia may occur in persons with influenza).

Cutaneous Anthrax

Most (>95%) naturally occurring *B. anthracis* infections are cutaneous and occur when the bacterium enters a cut or abrasion on the skin (e.g., when handling *B. anthracis*-contaminated animals, animal products, or other objects). The reported incubation period for cutaneous anthrax ranges from 0.5 to 12 days. Skin infection begins as a small papule that may be pruritic, progresses to a vesicle in 1-2 days, and erodes leaving a necrotic ulcer (eschar) with a characteristic black center. Secondary vesicles around the primary lesions may develop. The lesion is usually painless. Other symptoms may include swelling of adjacent lymph nodes, fever, malaise, and headache. The diagnosis of cutaneous anthrax is suggested by the presence of the eschar, the presence of edema out of proportion to the size of the lesion, and the lack of pain during the initial phases of the infection. The case-fatality rate for cutaneous anthrax is 5-20% without antibiotic treatment and <1% with antibiotic treatment.

Additional Information on Anthrax

Anthrax (Missouri Department of Health and Senior Services)

http://www.dhss.state.mo.us/BT_Response/MedicalProfessionals.htm#_Anthrax

Anthrax (Centers for Disease Control and Prevention)

<http://www.bt.cdc.gov/agent/anthrax/index.asp>

Inglesby TV, O'Toole T, Henderson DA, et al. Anthrax as a Biological Weapon, 2002: Updated Recommendations for Management. *JAMA* 2002; 287(17): 2236-2252.

<http://jama.ama-assn.org/cgi/content/full/287/17/2236>

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DHSS DISTRIBUTION LIST: Missouri local public health agencies, state agencies and professional association groups

**Missouri Fire Department or Districts
With Hazardous Materials Response Teams**

Kansas City Fire Department

Contact: Battalion Chief Frank Tittone
6600 E. Truman Rd
Kansas City, MO 64126
816-784-2020 or 816-784-2026
Chemist - Tom Seiter
Pager 816-881-1926

Lee's Summit Fire Department

Contact: Chief Tom Solberg
207 S. E. Douglas St.
Lee's Summit, MO 64063
816-969-707
Fax: 816-969-7422

Tri-District - Central Jackson, Ft Osage,
Sni Valley

Contact: Assistant Chief Greg Hook
P. O. Box 1450
Blue Springs, MO 64013
816-229-2522
Fax: 816-229-5110

Sedalia Fire Department

Contact: Battalion Chief Greg Harrell
600 S. Hancock St
Sedalia, MO 65301
660-826-8044
Fax: 660-827-7882

Whiteman AFB Fire Department

Contact: Chief Ralph McHenry
509 CES/CEF
660 10th St. Suite 211
Whiteman AFB, MO 65305-5074
660-687-3748
Fax: 660-687-3739

Boone County Fire Protection District

Contact: Chief Steve Paulsell
2201 I-70 Drive N. W.
Columbia, MO 65202
573-447-5000
Fax: 573-447-5099

Springfield Fire Department

Contact: Chief Steve Strader
830 Boonville, Rm 112
Springfield, MO 65802
417-864-1500

Ft. Leonard Wood Fire & Emergency Services Division

Contact: Chief Robert Woody
ATZT-DEH-F Bldg 413
Ft. Leonard Wood, MO 65473
573-596-0886/0883
Fax: 573-596-0868

St. Louis City Fire Department

Contact: Battalion Chief Ralph Break
4810 Enright
St. Louis, MO 63108
314-367-5190
Fax: 314-533-1681

St. Louis County Haz-Mat Team

Contact: Battalion Chief Phil Kiem
West County EMS & Fire Prot. Dist.
123 Henry Ave
Manchester, MO 63011
314-227-9350

St. Charles / Warren Co Haz-Mat Response

Contact: Assistant Chief Skip Gaudin
Cottleville Comm Fire Prot. Dist.
P. O. Box 385
Cottleville, MO 63338-0385
314-447-6655
Assistant Chief Rob Wylie
636-970-9700

Joplin Fire Department

Contact: Chief W. A. West
303 E. 3rd St
Joplin, MO 64802
417-623-0403
Fax: 417-625-4709

Camden County Haz-Mat Response

Contact: Operations Ch F. Kevin Hurtubise
Osage Beach Fire Prot. Dist.
1170 Bluff Drive
Osage Beach, MO 65065
573-348-1221
Fax: 573-348-4742

Logan-Rogersville Fire Protection District

Contact: Chief Richard Stirts
3427 S. State Hwy 125
Rogersville, MO 65742
417-753-4265
Fax: 417-753-4340

Jefferson County Haz-Mat Response Team

Contact: EMA Director Dirk Stringer
P. O. Box 100
Jefferson County Courthouse
Hillsboro, MO 63050
314-797-5381
Fax: 314-789-3528

Kirksville Fire Department

Contact: Chief: Chief Ron Stewart
601 S. Franklin
Kirksville, MO 63501
660-665-3734
Fax: 660-627-7011

Columbia Fire Department

Contact: Chief William Markgraf
201 Orr St.
Columbia, MO 65203
573-874-7450
Fax: 573-875-5518

Southeast Missouri Haz-Mat Team

Contact: Chief Brad Golden
Jackson Fire Department
525 S. Hope St.
Jackson, MO 63755
573-243-1010